PHYSIBEL B.V. Building Physics Software

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BISCO COMPANY TRAINING – 1 DAY

(standard program, can be tailored on request)

1. **Introduction & practical arrangements**
   - Physibel software introduction and status
   - Physibel Portal for user and licence management
   - How to use the online Physibel Knowledge Base?
   - File transfer: BISCO training files

2. **Introduction to heat transfer theory**
   - Concepts of conduction – convection - radiation
   - Implementation in the Physibel software
   - Link to the European standards (with focus on EN ISO 10077-2 and EN ISO 12631)

3. **Geometric modelling in the Physibel software**
   - How to prepare a CAD-drawing for efficient input in BISCO?
   - Program BiscoDxf : conversion of DXF > BMP
   - Automatisation

4. **Air cavities according to EN ISO 10077-2:2017**
   - "radiosity method" vs. "single equivalent thermal conductivity method"
     - non-ventilated: EQUIMAT method <-> TRANSMAT method
     - slightly ventilated: EQUIMAT method <-> BC_SIMPL method
     - surface emissivity
   - Automatic handling of cavities in BISCO

5. **Step-by-step exercises on window frame thermal transmittance U_f**
   - Understanding the different parameters in the calculation of U_f-value according to EN ISO 10077-2 in BISCO:
     - Step-by-step manual procedure
     - Settings and Calculation
     - Graphic output
     - Text output
   - Automatic procedure in BISCO:
     - from DXF to thermal report in 5 minutes
       - Colour database
       - EN ISO 10077-2 preparation
       - Automatic report functions

6. **Derived thermal properties for windows and reporting (EN ISO 10077-2)**
   - Frame thermal transmittance (U_{fr})
   - Glazing spacer linear thermal transmittance (ψ)
   - Window thermal transmittance (U_w)

7. **Exercises (on files delivered by company):** DXF and/or BSC files sent by company (week in advance)

8. **BISCO miscellaneous topics**
   - Surface relative humidity and condensation (EN ISO 13788)
   - Material template maintenance: Colour database
   - Summer behaviour of windows/curtain walls with BISCO
   - Batch calculations
   - Adjusting BISCO files with BiscoBMP
   - Detailed radiation on surfaces (RADCON type BC_SKY as alternative for BC_SIMPL)
   - Calculation parameters.

9. **Introduction to dynamic simulation using the solar processor: BISTRA**

10. **Questions & conclusions & File transfers.**